

WHAT IS CLAIMED IS:

1. A photoprotective cosmetic/dermatological composition suited for the UV-photoprotection of the skin and/or hair, comprising (a) at least one organic UV-screening agent and (b) an SPF-improving amount of at least one amphiphilic polymerizate of at least one ethylenically unsaturated monomer which comprises a sulfonic group, whether in the free acid or in partially or totally neutralized state, and which amphiphilic polymerizate also comprises at least one hydrophobic moiety.
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2. The cosmetic/dermatological composition as defined by Claim 1, said at least one hydrophobic moiety of said at least one amphiphilic polymerizate having from 6 to 50 carbon atoms.
- 15 3. The cosmetic/dermatological composition as defined by Claim 2, said at least one hydrophobic moiety of said at least one amphiphilic polymerizate having from 6 to 22 carbon atoms.
4. The cosmetic/dermatological composition as defined by Claim 3, said at
20 least one hydrophobic moiety of said at least one amphiphilic polymerizate having from 6 to 18 carbon atoms.
- 25 5. The cosmetic/dermatological composition as defined by Claim 4, said at least one hydrophobic moiety of said at least one amphiphilic polymerizate having from 12 to 18 carbon atoms.
6. The cosmetic/dermatological composition as defined by Claim 1, the sulfonic groups of said at least one amphiphilic polymerizate being partially or totally neutralized with a mineral or organic base.

7. The cosmetic/dermatological composition as defined by Claim 1, said at least one amphiphilic polymerize having a number-average molecular weight ranging from 1,000 to 20,000,000 g/mol.

5 8. The cosmetic/dermatological composition as defined by Claim 7, said number-average molecular weight ranging from 20,000 to 5,000,000 g/mol.

9. The cosmetic/dermatological composition as defined by Claim 8, said number-average molecular weight ranging from 100,000 to 1,500,000 g/mol.

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10. The cosmetic/dermatological composition as defined by Claim 1, an aqueous 1% by weight solution of said at least one amphiphilic polymerize having, at a temperature of 25°C, a viscosity, measured using a Brookfield viscometer with a No. 7 needle, ranging from 20,000 mPa.s to 100,000 mPa.s.

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11. The cosmetic/dermatological composition as defined by Claim 1, said at least one amphiphilic polymerize having been prepared by free-radical precipitation polymerization in tert-butanol.

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12. The cosmetic/dermatological composition as defined by Claim 1, said at least one amphiphilic polymerize being non-crosslinked.

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13. The cosmetic/dermatological composition as defined by Claim 1, said at least one amphiphilic polymerize being crosslinked.

14. The cosmetic/dermatological composition as defined by Claim 13, said at least one amphiphilic polymerize being crosslinked with a polyolefinically unsaturated crosslinking agent.

15. The cosmetic/dermatological composition as defined by Claim 14, said crosslinking agent comprising methylenebisacrylamide, allyl methacrylate or trimethylolpropane triacrylate (TMPTA).

5 16. The cosmetic/dermatological composition as defined by Claim 14, the degree of crosslinking ranging from 0.01 mol% to 10 mol%.

10 17. The cosmetic/dermatological composition as defined by Claim 1, said at least one ethylenically unsaturated monomer which comprises a sulfonic group comprising vinylsulfonic acid, styrenesulfonic acid, a (meth)acrylamido(C₁-C₂₂)alkylsulfonic acid, an N-(C₁-C₂₂)alkyl(meth)acrylamido-(C₁-C₂₂)alkylsulfonic acid, or the partially or totally neutralized forms thereof.

15 18. The cosmetic/dermatological composition as defined by Claim 17, said at least one ethylenically unsaturated monomer which comprises a sulfonic group comprising acrylamidomethanesulfonic acid, acrylamidoethanesulfonic acid, acrylamidopropanesulfonic acid, 2-acrylamido-2-methylpropanesulfonic acid, methacrylamido-2-methylpropanesulfonic acid, 2-acrylamido-n-butanesulfonic acid, 2-acrylamido-2,4,4-trimethylpentanesulfonic acid, 2-methacryl-amidododecylsulfonic acid or 2-acrylamido-2,6-di-methyl-3-heptanesulfonic acid, or the partially or totally neutralized forms thereof.

20 19. The cosmetic/dermatological composition as defined by Claim 18, said at least one ethylenically unsaturated monomer which comprises a sulfonic group comprising 2-acrylamido-2-methylpropanesulfonic acid (AMPS), or the partially or totally neutralized forms thereof.

20. The cosmetic/dermatological composition as defined by Claim 19, said at least one amphiphilic polymerize comprising a random AMPS polymer modified by reaction with an n-mono(C₆-C₂₂)alkylamine or a di-n-(C₆-C₂₂)-alkylamine.

5 21. The cosmetic/dermatological composition as defined by Claim 19, said amphiphilic AMPS polymerize also being derived from at least one ethylenically unsaturated monomer not comprising a fatty chain.

10 22. The cosmetic/dermatological composition as defined by Claim 20, said at least one ethylenically unsaturated monomer not comprising a fatty chain being selected from among (meth)acrylic acids and the β-substituted alkyl derivatives thereof, and the esters thereof obtained with monoalcohols or mono- or polyalkylene glycols, or from (meth)acrylamides, vinylpyrrolidone, maleic anhydride, itaconic acid or maleic acid, or mixtures thereof.

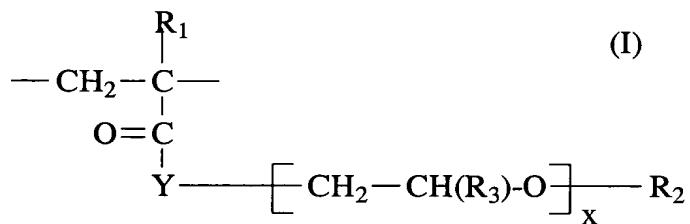
15 23. The cosmetic/dermatological composition as defined by Claim 19, said amphiphilic AMPS polymerize comprising an amphiphilic copolymer of AMPS and of at least one ethylenically unsaturated hydrophobic monomer which comprises at least one hydrophobic moiety having from 6 to 50 carbon atoms.

20 24. The cosmetic/dermatological composition as defined by Claim 23, said at least one hydrophobic moiety having from 6 to 22 carbon atoms.

25 25. The cosmetic/dermatological composition as defined by Claim 24, said at least one hydrophobic moiety having from 6 to 18 carbon atoms.

26. The cosmetic/dermatological composition as defined by Claim 25, said at least one hydrophobic moiety having from 12 to 18 carbon atoms.

27. The cosmetic/dermatological composition as defined by Claim 23, said at least one ethylenically unsaturated hydrophobic monomer comprising an acrylate or acrylamide of formula (I) below:



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in which R_1 and R_3 , which may be identical or different, are each a hydrogen atom or a linear or branched $\text{C}_1\text{-C}_6$ alkyl radical; Y is O or NH ; R_2 is a hydrophobic hydrocarbyl radical having from 6 to 50 carbon atoms; and x is the number of moles of alkylene oxide and ranges from 0 to 100.

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28. The cosmetic/dermatological composition as defined by Claim 27, wherein formula (I) said hydrophobic radical R_2 is a linear, branched or cyclic $\text{C}_6\text{-C}_{18}$ alkyl radical; $\text{C}_6\text{-C}_{18}$ alkylperfluoro radical; cholesteryl radical or a cholesterol ester; or an aromatic polycyclic radical.

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29. The cosmetic/dermatological composition as defined by Claim 27, said at least one monomer of formula (I) comprising at least one alkylene oxide structural unit ($x \geq 1$).

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30. The cosmetic/dermatological composition as defined by Claim 27, said at least one monomer of formula (I) comprising at least one polyoxyalkylenated structural unit.

31. The cosmetic/dermatological composition as defined by Claim 30, said at least one polyoxyalkylenated structural unit comprising ethylene oxide groups and/or of propylene oxide groups.

5 32. The cosmetic/dermatological composition as defined by Claim 31, said at least one polyoxyalkylenated structural unit solely comprising ethylene oxide groups.

10 33. The cosmetic/dermatological composition as defined by Claim 27, wherein formula (I) the number of oxyalkylenated structural units ranges from 3 to 100.

34. The cosmetic/dermatological composition as defined by Claim 33, wherein formula (I) the number of oxyalkylenated structural units ranges from 3 to 50.

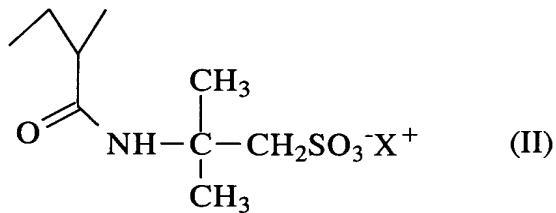
15 35. The cosmetic/dermatological composition as defined by Claim 34, wherein formula (I) the number of oxyalkylenated structural units ranges from 7 to 25.

20 36. The cosmetic/dermatological composition as defined by Claim 23, said at least one amphiphilic AMPS polymer comprising a crosslinked or non-crosslinked, neutralized or non-neutralized copolymer which comprises from 15% to 60% by weight of AMPS structural units and from 40% to 85% by weight of (C_8-C_{16})alkyl(meth)acrylamide structural units or of (C_8-C_{16})alkyl (meth)acrylate structural units, relative to the polymer; or a terpolymer which comprises from 10 mol% to 90 mol% of acrylamide structural units, from 0.1 mol% to 10 mol% of 25 AMPS structural units and from 5 mol% to 80 mol% of n-(C_6-C_{18})alkyl-acrylamide structural units, relative to the polymer.

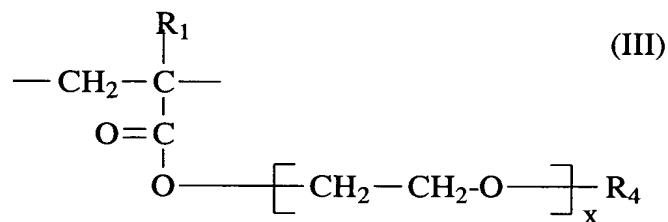
37. The cosmetic/dermatological composition as defined by Claim 23, said at least one amphiphilic AMPS polymer comprising a non-crosslinked copolymer of

partially or totally neutralized AMPS and of n-dodecyl methacrylate, or a crosslinked or non-crosslinked copolymer of partially or totally neutralized AMPS and of n-dodecyl-methacrylamide.

5 38. The cosmetic/dermatological composition as defined by Claim 23, said at least one amphiphilic AMPS polymer comprising a copolymer of 2-acrylamido-2-methylpropanesulfonic acid (AMPS) structural units of formula (II) below:



10 in which X^+ is a proton, an alkali metal cation, an alkaline earth metal cation or the ammonium ion, and of structural units of formula (III) below:



15 in which x is an integer ranging from 3 to 100, R_1 is as defined in formula (I); and R_4 is a linear or branched C_6-C_{22} alkyl radical.

39. The cosmetic/dermatological composition as defined by Claim 38, wherein formula (III) $x = 25$, R_1 is methyl and R_4 is n-dodecyl.

40. The cosmetic/dermatological composition as defined by Claim 38, the molar percentage of structural units of formula (I) or of structural units of formula (III) in the polymer ranging from 50.1% to 99.9%.

5 41. The cosmetic/dermatological composition as defined by Claim 38, the molar percentage of structural units of formula (I) or of structural units of formula (III) in the polymer ranging from 0.1% to 50%.

10 42. The cosmetic/dermatological composition as defined by Claim 1, said at least one amphiphilic polymerizate comprising from 0.01% to 30% by weight thereof.

15 43. The cosmetic/dermatological composition as defined by Claim 1, said at least one organic UV-screening agent being selected from among anthranilates; cinnamic derivatives; dibenzoylmethane derivatives; salicylic derivatives; camphor derivatives; triazine derivatives; benzophenone derivatives; β,β' -diphenylacrylate derivatives; benzotriazole derivatives; benzalmalonate derivatives; benzimidazole derivatives; imidazolines; bis-benzazolyl derivatives; p-aminobenzoic acid (PABA) derivatives; methylenebis(hydroxyphenylbenzotriazole) derivatives; screening polymers and screening silicones; dimers derived from α -alkylstyrene; and mixtures thereof.

20 44. The cosmetic/dermatological composition as defined by Claim 43, said at least one organic UV-screening agent being selected from among the following compounds:

25 PABA,
Ethyl PABA,
Ethyl Dihydroxypropyl PABA
Ethylhexyl Dimethyl PABA

Glyceryl PABA,
PEG-25 PABA,
Homosalate,
Ethylhexyl Salicylate
5 Dipropylene glycol Salicylate,
TEA Salicylate,
Butylmethoxydibenzoylmethane,
Isopropyldibenzoylmethane,
Ethylhexyl Methoxycinnamate,
10 Isopropyl Methoxycinnamate,
Isoamyl Methoxycinnamate,
Cinoxate,
DEA Methoxycinnamate,
Diisopropyl Methylcinnamate,
15 Glyceryl Ethylhexanoate Dimethoxycinnamate,
Octocrylene,
Etocrylene,
Benzophenone-1,
Benzophenone-2,
20 Benzophenone-3,
Benzophenone-4,
Benzophenone-5,
Benzophenone-6,
Benzophenone-8,
25 Benzophenone-9,
Benzophenone-12,
3-Benzylidene camphor,
4-Methylbenzylidene camphor,
Benzylidene camphorsulfonic Acid,

Benzalkonium Camphor,
Terephthalidenedicamphorsulfonic,
Polyacrylamidomethylbenzylidenecamphor,
Phenylbenzimidazolesulfonic Acid,
5 Benzimidazilate,
Anisotriazine,
Ethylhexyl Triazole,
Diethylhexyl Butamido Triazole,
Drometrizole Trisiloxane,
10 Methylene bis-Benzotriazolyl Tetramethylbutyl-phenol,
Menthyl anthranilate,
Ethylhexyl Dimethoxybenzylidene Dioxoimidazoline Propionate,
Polyorganosiloxane containing benzalmalonate functions and mixtures thereof.

15 45. The cosmetic/dermatological composition as defined by Claim 44, said at least one organic UV-screening agent being selected from among the following compounds:
ethylhexyl salicylate,
butylmethoxydibenzoylmethane,
20 ethylhexyl methoxycinnamate,
octocrylene,
phenylbenzimidazolesulfonic acid,
terephthalylidenedicamphorsulfonic,
benzophenone-3,
25 benzophenone-4,
benzophenone-5,
4-methylbenzylidenecamphor,
benzimidazilate,
anisotriazine,

ethylhexyltriazone,
diethylhexylbutamidotriazole,
methylenebis(benzotriazolyl)tetramethylbutylphenol,
drometrizole trisiloxane, and mixtures thereof.

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46. The cosmetic/dermatological composition as defined by Claim 1, said at least one organic UV-screening agent comprising from 0.1% to 20% by weight thereof.

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47. The cosmetic/dermatological composition as defined by Claim 1, further comprising coated or uncoated metal oxide pigments or nanopigments.

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48. The cosmetic/dermatological composition as defined by Claim 47, said pigments or nanopigments being selected from among titanium oxide, zinc oxide, iron oxide, zirconium oxide and cerium oxide, and mixtures thereof, whether coated or uncoated.

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49. The cosmetic/dermatological composition as defined by Claim 1, further comprising at least one active agent for artificially tanning and/or browning the skin.

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50. The cosmetic/dermatological composition as defined by Claim 1, further comprising at least one adjuvant selected from among fatty substances, organic solvents, ionic or nonionic thickeners, softeners, antioxidants, free-radical scavengers, opacifiers, stabilizers, emollients, silicones, α -hydroxy acids, antifoams, moisturizers, vitamins, insect repellents, fragrances, preservatives, surfactants, anti-inflammatories, substance P antagonists, fillers, polymers other than those of the invention, propellants, acidifying or basifying agents and colorants.

51. The cosmetic/dermatological composition as defined by Claim 1, formulated as a nonionic vesicular dispersion, an emulsion, a cream, a milk, a gel, a cream-gel, a suspension, a dispersion, a powder, a solid tube, a mousse or a spray.

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52. The cosmetic/dermatological composition as defined by Claim 1, formulated as a makeup composition for the eyelashes, the eyebrows or the skin, in solid or pasty, anhydrous or aqueous form or in the form of an emulsion, a suspension or a dispersion.

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53. The cosmetic/dermatological composition as defined by Claim 1, formulated as a composition for protecting the hair against ultraviolet rays and in the form of a shampoo, a lotion, a gel, an emulsion or a nonionic vesicular dispersion.

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54. A regime or regimen for photoprotecting the skin and/or hair against the damaging effects of UV-irradiation, comprising topically applying thereon a thus effective amount of a photoprotective cosmetic/dermatological composition, comprising (a) at least one organic UV-screening agent and (b) an SPF-improving amount of at least one amphiphilic polymerizate of at least one ethylenically unsaturated monomer which comprises a sulfonic group, whether in the free acid or in partially or totally neutralized state, and which amphiphilic polymerizate also comprises at least one hydrophobic moiety.

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